U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-255/91020

Docket No. 50-255

License No. DPR-20

Licensee: Consumers Power Company
27780 Blue Star Memorial Highway
Covert, MI 49043

Meeting Conducted: October 9, 1991

Meeting At: Region III Office, Glen Ellyn, Illinois

Type of Meeting: Enforcement Conference

Inspector: Edward R. Schweibinz 10-17-91
E. R. Schweibinz Date
Senior Project Engineer

J. R. Roton, Resident Inspector

Reviewed By: E. R. Schweibinz for 10-17-91
B. L. Jorgensen, Chief Date
Reactor Projects Section 2A

Approved By: R. DeFayette for 10/17/91
B. Clayton, Chief Date
Reactor Projects Branch 2

Meeting Summary

Enforcement Conference on October 9, 1991, (Report No. 50-255/91020(DRP))
Areas Discussed: A review of the apparent violations and areas of concern identified during the inspection (documented in Report No. 50-255/91017), and corrective actions taken or planned by the licensee. The enforcement options pertaining to the apparent violations were also discussed with the licensee.

DETAILS

1. Persons Present at Conference

Consumers Power Company

D. P. Hoffman, Vice President, Nuclear
G. B. Slade, Plant General Manager
P. M. Donnelly, Plant Safety and Licensing Director
R. J. Gerling, Safety Analysis Supervisor
M. J. Kane, OPS Plant Shift Supervisor
M. T. Nordin, Electrical Systems Engineering Section Head
C. T. Hillman, Senior Engineer, Licensing Department
J. L. Kuemin, Licensing Administrator
D. J. Malone, Shift Engineer
R. M. Rice, Superintendent - Production
T. C. Duffy, Licensing Engineer

U.S. Nuclear Regulatory Commission, Region III

C. J. Paperiello, Deputy Regional Administrator, RIII
E. G. Greenman, Director, Division of Reactor Projects, RIII
B. Clayton, Chief, Reactor Projects Branch 2, RIII
C. D. Pederson, Enforcement Director, RIII
B. L. Jorgensen, Chief, Reactor Projects Section 2A, RIII
E. R. Schweibinz, Senior Project Engineer, RIII
S. R. Peterson, Resident Inspector, Palisades
C. H. Weil, Enforcement Specialist, RIII
W. M. Troskoski, Enforcement Specialist, OE
J. K. Heller, Senior Resident Inspector, Palisades
B. E. Holian, Palisades Project Manager, NRR
B. A. Berson, Regional Counsel, RIII
D. S. Butler, Reactor Inspector, RIII
R. L. Bywater, Reactor Engineer, RIII
C. E. Brown, Reactor Engineer, RIII
J. A. Lennartz, Reactor Engineer (Examiner), RIII
M. K. Khanna, Reactor Engineer (Intern), RIII
D. E. Roth, Reactor Engineer (Intern), RIII
J. F. Harold, Reactor Engineer (Intern), RIII
S. Sanders, Reactor Engineer (Intern), RIII

2. Enforcement Conference

An enforcement conference was held in the NRC Region III office on October 9, 1991. This conference was conducted as a result of the preliminary findings of the inspection conducted on September 10 through 20, 1991, in which apparent violations of NRC regulations and license conditions were identified. Inspection findings are documented in Inspection Report No. 50-255/91017, transmitted to the licensee by letter dated October 1, 1991.

The purpose of this conference was to (1) discuss the apparent violations, causes, and the licensee's corrective actions; (2) discuss

several areas of concern; (3) determine if there were any escalating or mitigating circumstances; and (4) obtain any information which would help determine the appropriate enforcement action.

The licensee's representatives did contest part of the apparent violations, but were in agreement with the NRC's understanding of the areas of concern. The licensee stated that the operability of containment spray pump P-54C was indeterminate from the time it was last tested on February 11, 1991, until it failed its test on May 23, 1991. The NRC stated that the spray pump was inoperable during this period. The NRC position is that a safety system component is either operable or inoperable at all times. Indeterminate is not a recognized state of operability.

Regarding Inspection Report 50-255/91017(DRP), the licensee stated that further review indicated that pump P-54B was rendered inoperable after it was started for system air sweeps and thus it also was not verified operable prior to the reactor being taken critical on March 10, 1991, contrary to what is indicated in the second paragraph (03/03/91) on page 4 of the inspection report. The licensee indicated that an administrative procedure, Standing Order No. 54, required the containment spray pumps to be operable when the plant exceeds 325°F, in addition to when the reactor is taken critical and thus they were administratively required to be operable on March 25 and 26, 1991, contrary to what is indicated in the fourth paragraph (03/25/91), sixth paragraph (03/26/91), and eighth paragraph (05/23/91) on page 4 of the inspection report. Finally, the licensee also stated that in addition to the containment spray pumps not being verified operable, the startup procedure also failed to verify operability of the high pressure safety injection (HPSI) pumps at the proper point in time during the startup (this is also being corrected).

The licensee's representatives described the events which led to the apparent violations, including root causes and corrective actions taken. In summary, the corrective actions involved operator training, a revision to the administrative testing program, a revision to the startup procedure, a preventative maintenance program on the breaker fuse block assembly, and providing indication for breaker closing coil power.

The licensee also addressed the safety significance of the containment spray pumps inoperability and provided a handout of its slides (attached).

At the conclusion of the meeting, the licensee was informed that it would be notified in the near future of the final enforcement action.

Attachment: As stated

CONSUMERS POWER COMPANY
PALISADES NUCLEAR PLANT

ENFORCEMENT CONFERENCE
CONTAINMENT SPRAY PUMP INOPERABILITY
CONCERNS PRESENTED IN IR 91017
OCTOBER 9, 1991

ENFORCEMENT CONFERENCE

CONTAINMENT SPRAY PUMP

I.	INTRODUCTION	GBSlade
II.	OVERVIEW	DGMalone
III.	POSSIBLE CAUSES	DGMalone
IV.	CORRECTIVE ACTION	DGMalone
V.	SAFETY SIGNIFICANCE	TCDuffy/DGMalone
VI.	INSPECTION REPORT COMMENTS	DGMalone
VII.	CONCLUDING REMARKS	GBSlade

EVENT OVERVIEW

FEBRUARY 11	SPRAY PUMPS TESTED WHILE SHUTDOWN. BREAKERS RACKED OUT AND FUSES REMOVED AT CONCLUSION OF TEST.
MARCH 2	BREAKERS RACKED IN, FUSES INSTALLED IN SPRAY PUMPS.
MARCH 3	PCS TAKEN > 325°F (SPRAY PUMPS REQUIRED ADMINISTRATIVELY).
MARCH 10	REACTOR TAKEN CRITICAL (SPRAY PUMPS REQUIRED BY TECH SPECS).
MARCH 25	REACTOR TAKEN SUBCRITICAL
MARCH 26	REACTOR TAKEN CRITICAL
MAY 23	FIRST TIME SINCE OUTAGE THAT QUARTERLY SPRAY PUMP SURVEILLANCE TEST IS PERFORMED. SPRAY PUMP P-54C FAILED TO START.

PROBABLE CAUSE

FUSE FINGERS NOT MADE UP

- FUSE BLOCK IN GOOD CONDITION
- FUSE HOLDER IN GOOD CONDITION
- FUSES IN GOOD CONDITION
- FUSE HOLDER ORIENTATION CHECKED

ANOTHER POSSIBILITY

- LOCAL HAND SWITCH CONTACTS

PREVIOUS EVENT

- DG 1-1
- PM PROGRAM

CORRECTIVE ACTION

- OPERATOR TRAINING
- REVISION TO ADMIN TESTING PROGRAM
- REVISION TO STARTUP PROCEDURE
- PM PROGRAM ON BREAKER FUSE BLOCK ASSEMBLY
- PROVIDE INDICATION FOR CLOSING COIL POWER

CONTAINMENT HEAT REMOVAL TRAINS

	LEFT	RIGHT
EMERGENCY DIESEL GENERATOR:	EDG 1-1	EDG 1-2
CONTAINMENT SPRAY PUMPS:	P-54B P-54C	P-54A
CONTAINMENT AIR COOLERS:		VHX-1 VHX-2 VHX-3
SERVICE WATER PUMPS:	P-7B	P-7A P-7C
COMPONENT COOLING WATER PUMPS	P-52A P-52C	P-52B

THE PRESENT LOCA ANALYSIS ASSUMES THAT THE FAILURE OF ONE OF THE D/G TO START IS THE WORST SINGLE FAILURE. THE COOLING EQUIPMENT AVAILABLE UNDER THIS SCENARIO IS;

D/G 1-1 AVAILABLE - CONTAINMENT SPRAY PUMPS P-54B & C

D/G 1-2 AVAILABLE - CONTAINMENT SPRAY PUMP P-54A AND CONTAINMENT AC'S VHX-1, 2, AND 3.

THE PRESENT MSLB ASSUMES THAT THE WORST SINGLE FAILURE IS AN SIS CONTACT THAT FAILS TO START P-54B AND C. THE COOLING EQUIPMENT AVAILABLE UNDER THIS SCENARIO IS;

CONTAINMENT SPRAY PUMP P-54A AND CONTAINMENT AC'S VHX-1, 2, AND 3.

RESULTS:

LOCA

THE PEAK PRESSURE AND TEMPERATURE FOR THE FSAR CASE AND THE POSTULATED CASE ARE LISTED BELOW.

FSAR CASE

PEAK PRESSURE = 69.40 PSIA
PEAK TEMPERATURE = 281.8°F

P-54C INOPERABLE

PEAK PRESSURE = 69.40 PSIA
PEAK TEMPERATURE = 281.8°F

MSLB

THE PEAK PRESSURE AND TEMPERATURE FOR THE FSAR CASE AND THE POSTULATED CASE ARE LISTED BELOW.

FSAR CASE

PEAK PRESSURE = 67.15 PSIA
PEAK TEMPERATURE = 384.2°F

P-54C INOPERABLE

PEAK PRESSURE = 69.40 PSIA
PEAK TEMPERATURE = 386.8°F

EQUIPMENT QUALIFICATION = 400°F

FIGURE 1

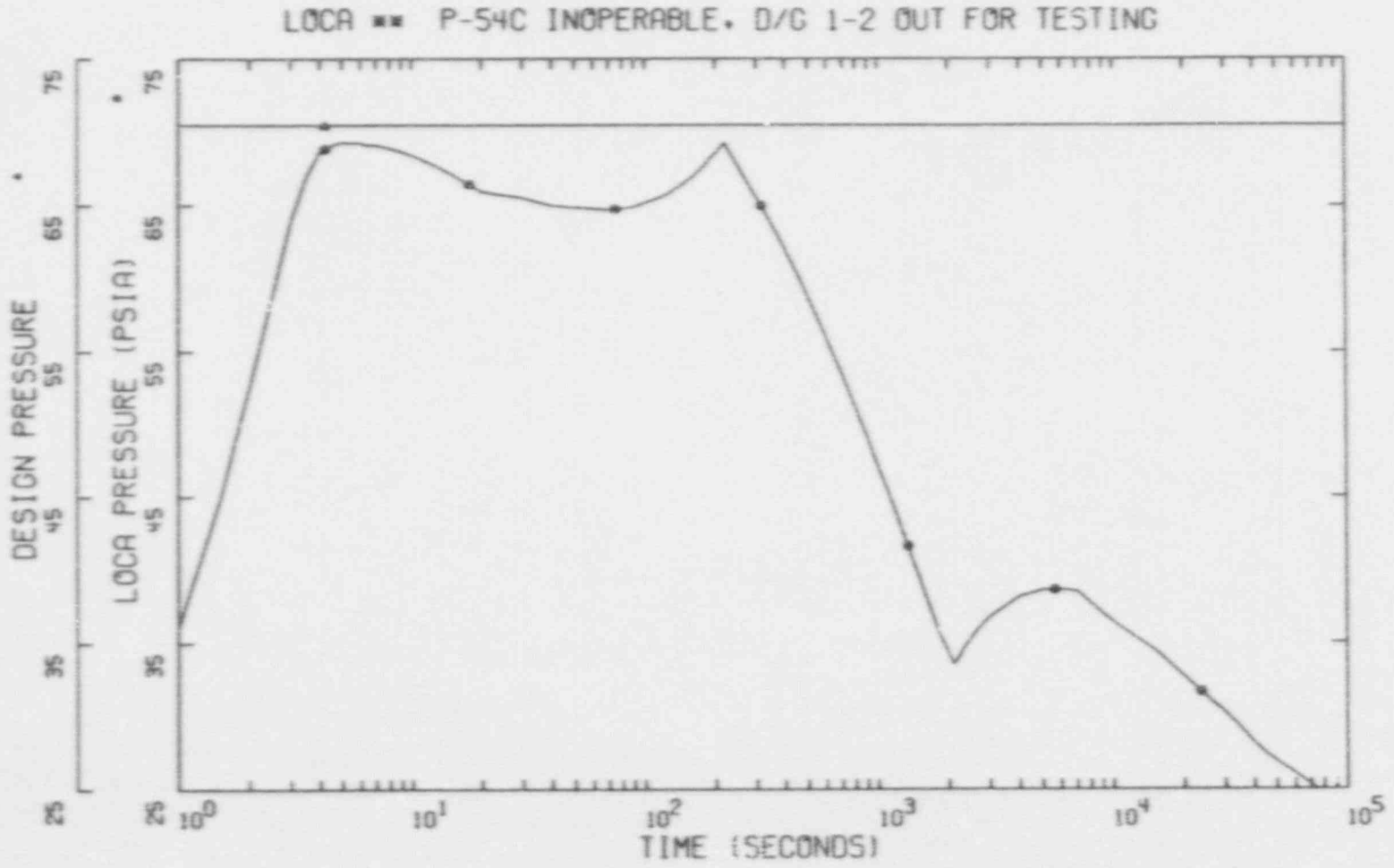

LOCA ** P-54C INOPERABLE. D/G 1-2 OUT FOR TESTING
DESIGN PRESSURE
LOCA PRESSURE (PSIA)
75
65
55
45
35
25
10^0
10^1
10^2
10^3
10^4
10^5
TIME (SECONDS)

FIGURE 1

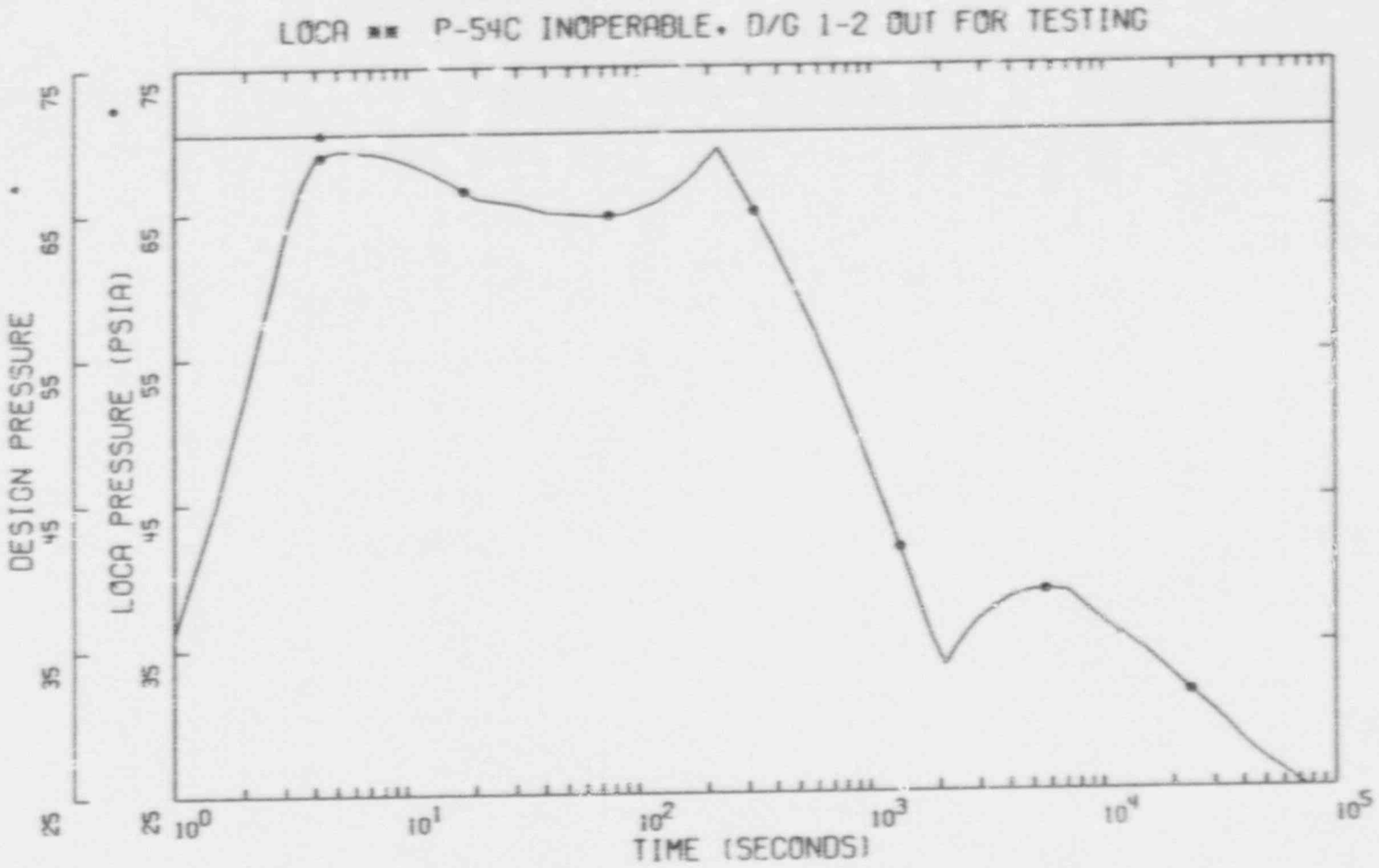

LOCA ** P-54C INOPERABLE. D/G 1-2 OUT FOR TESTING
DESIGN PRESSURE
LOCA PRESSURE (PSIA)
75
65
55
45
35
25
10^0
10^1
10^2
10^3
10^4
10^5
TIME (SECONDS)

FIGURE 2

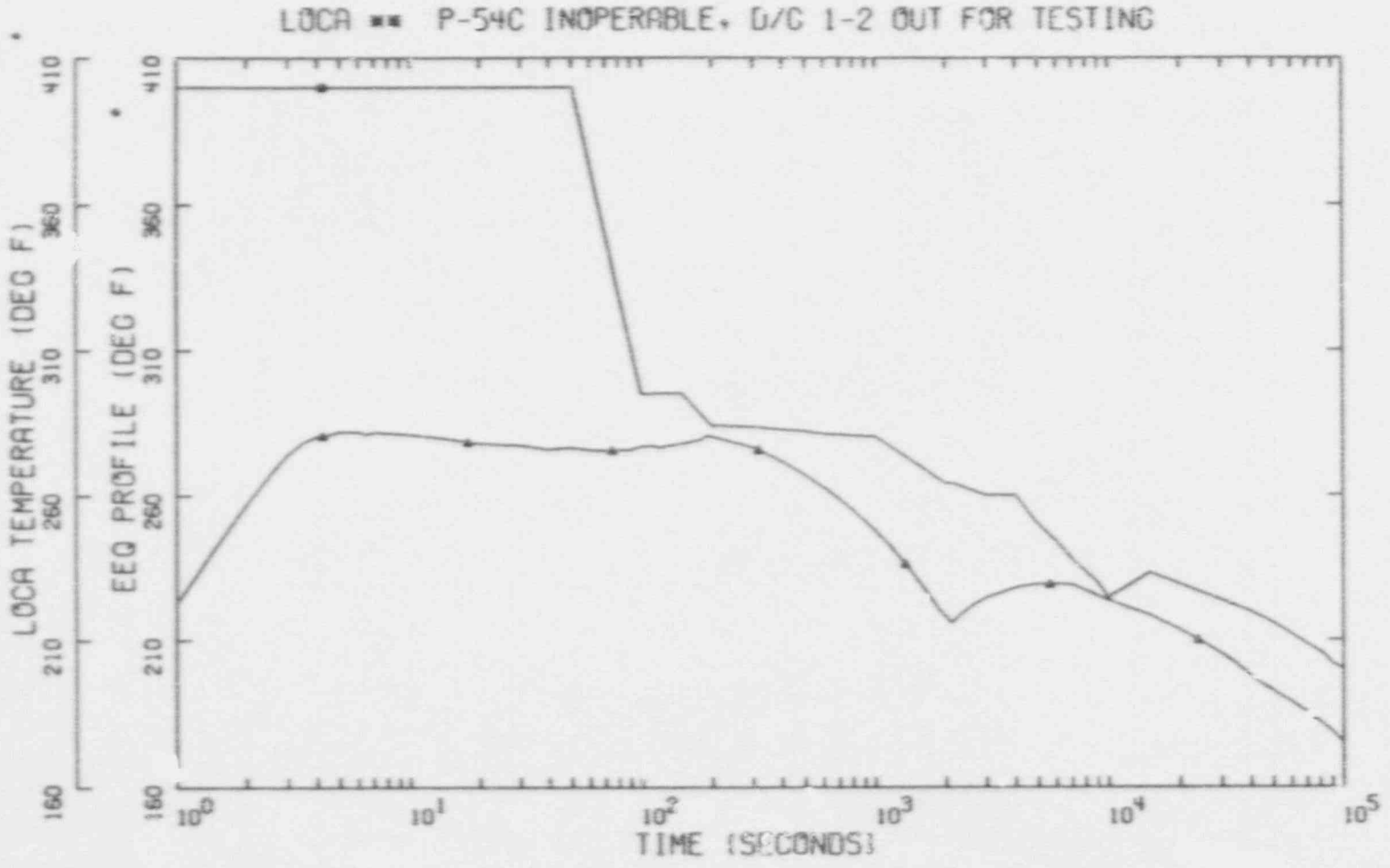

LOCA ** P-54C INOPERABLE, D/G 1-2 OUT FOR TESTING
LOCA TEMPERATURE (DEG F)
EEQ PROFILE (DEG F)
160
210
260
310
360
410
10^0
10^1
10^2
10^3
10^4
10^5
TIME (SECONDS)

FIGURE 2

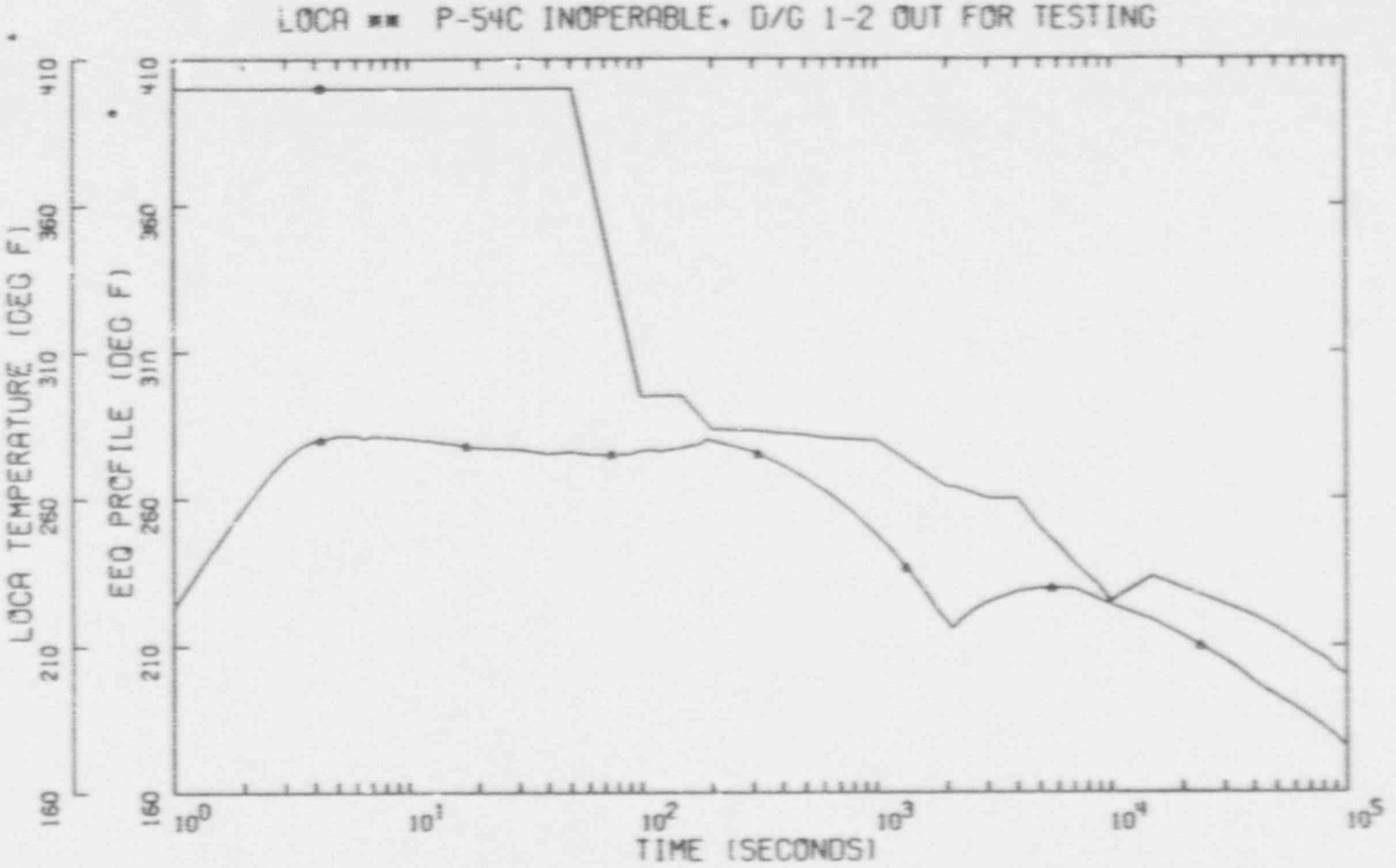

LOCA ** P-54C INOPERABLE, D/G 1-2 OUT FOR TESTING
LOCA TEMPERATURE (DEG F)
EEQ PROFILE (DEG F)
160
210
260
310
360
410
10^0
10^1
10^2
10^3
10^4
10^5
TIME (SECONDS)

FIGURE 3

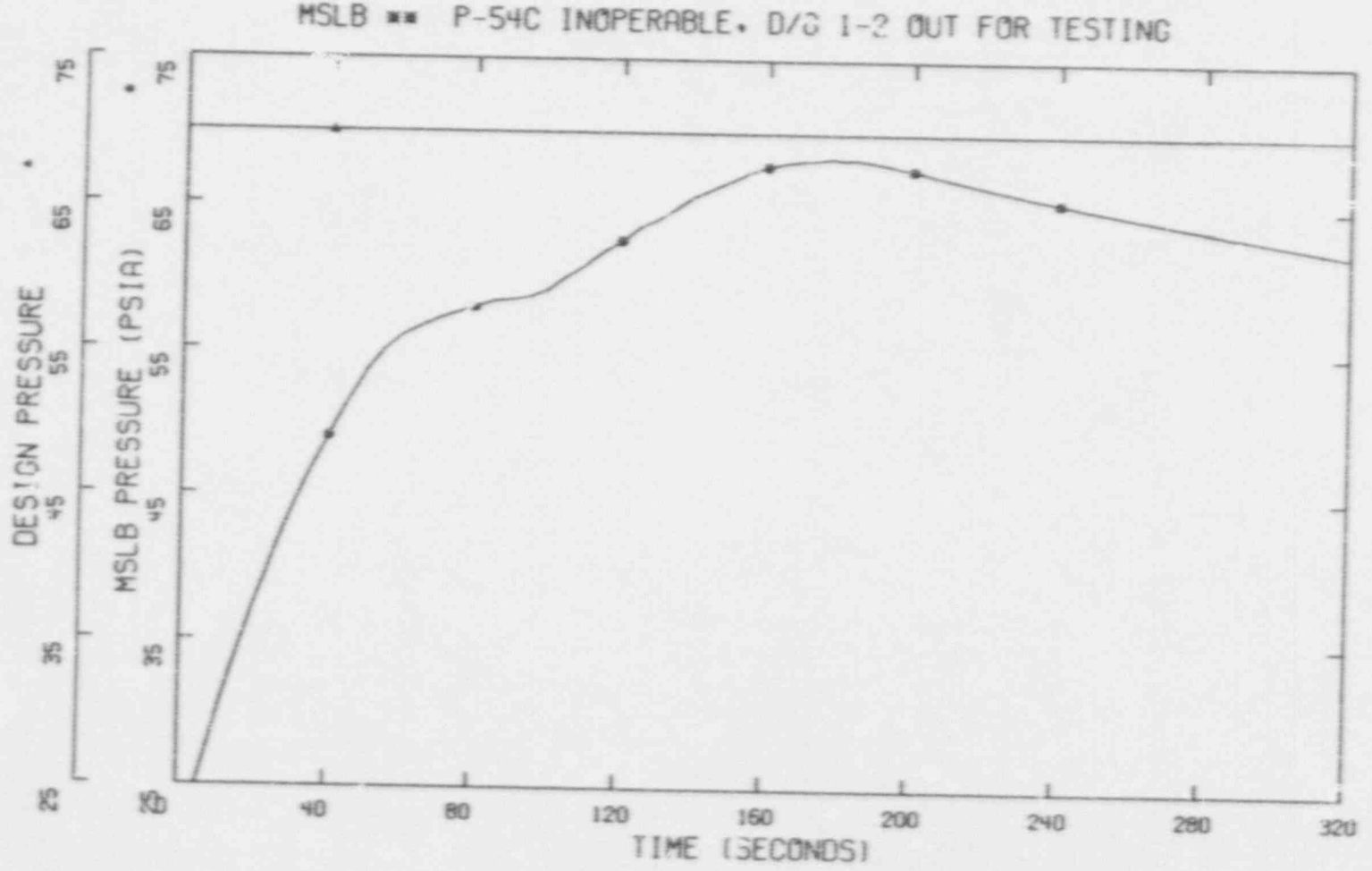

MSLB ** P-54C INOPERABLE. D/G 1-2 OUT FOR TESTING
DESIGN PRESSURE
MSLB PRESSURE (PSIA)
25
35
45
55
65
75
40
80
120
160
200
240
280
320
TIME (SECONDS)

FIGURE 3

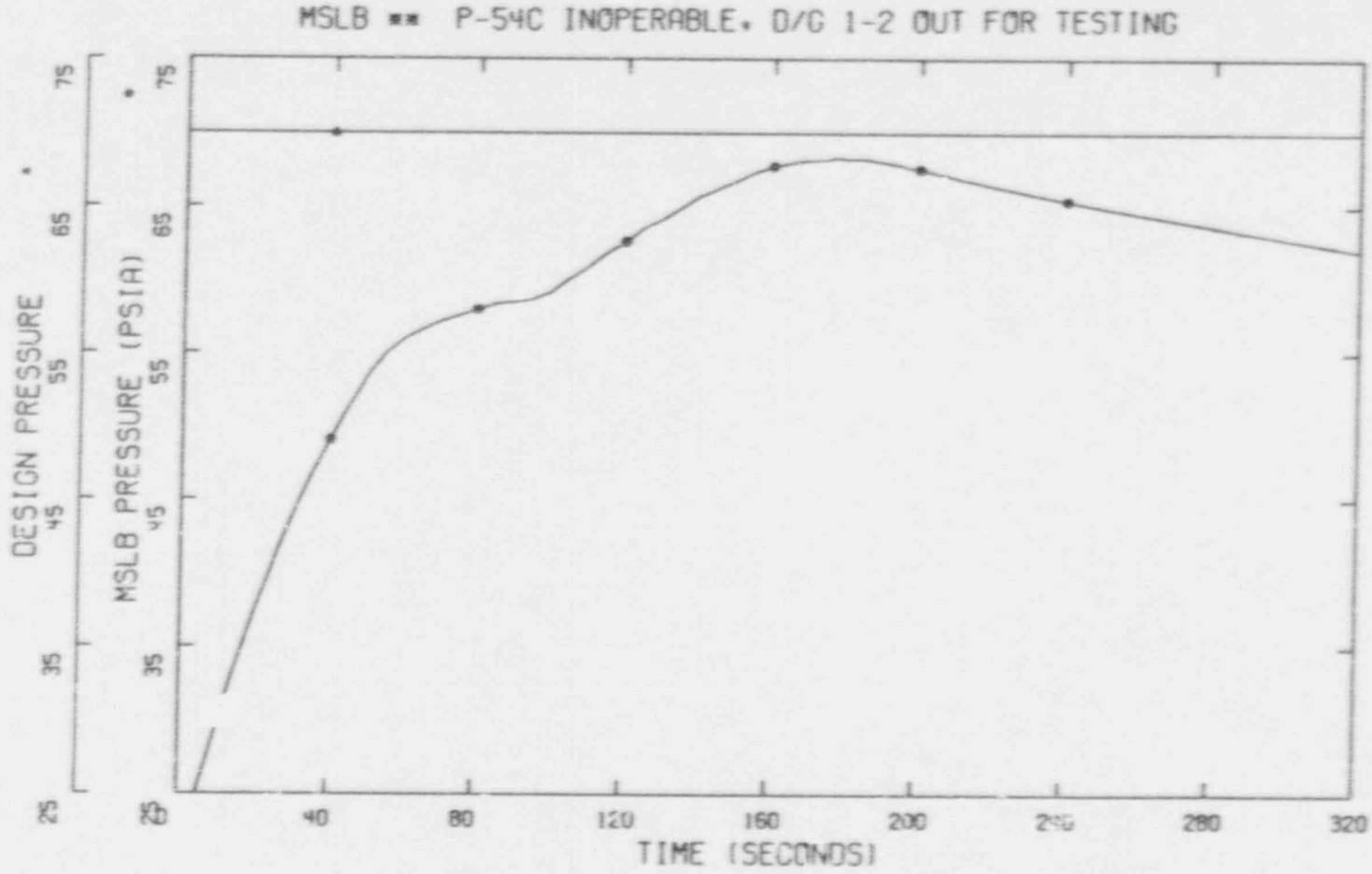

MSLB ** P-54C INOPERABLE, D/G 1-2 OUT FOR TESTING
DESIGN PRESSURE
MSLB PRESSURE (PSIA)
75
65
55
45
35
25
40
80
120
160
200
240
280
320
TIME (SECONDS)

FIGURE 4

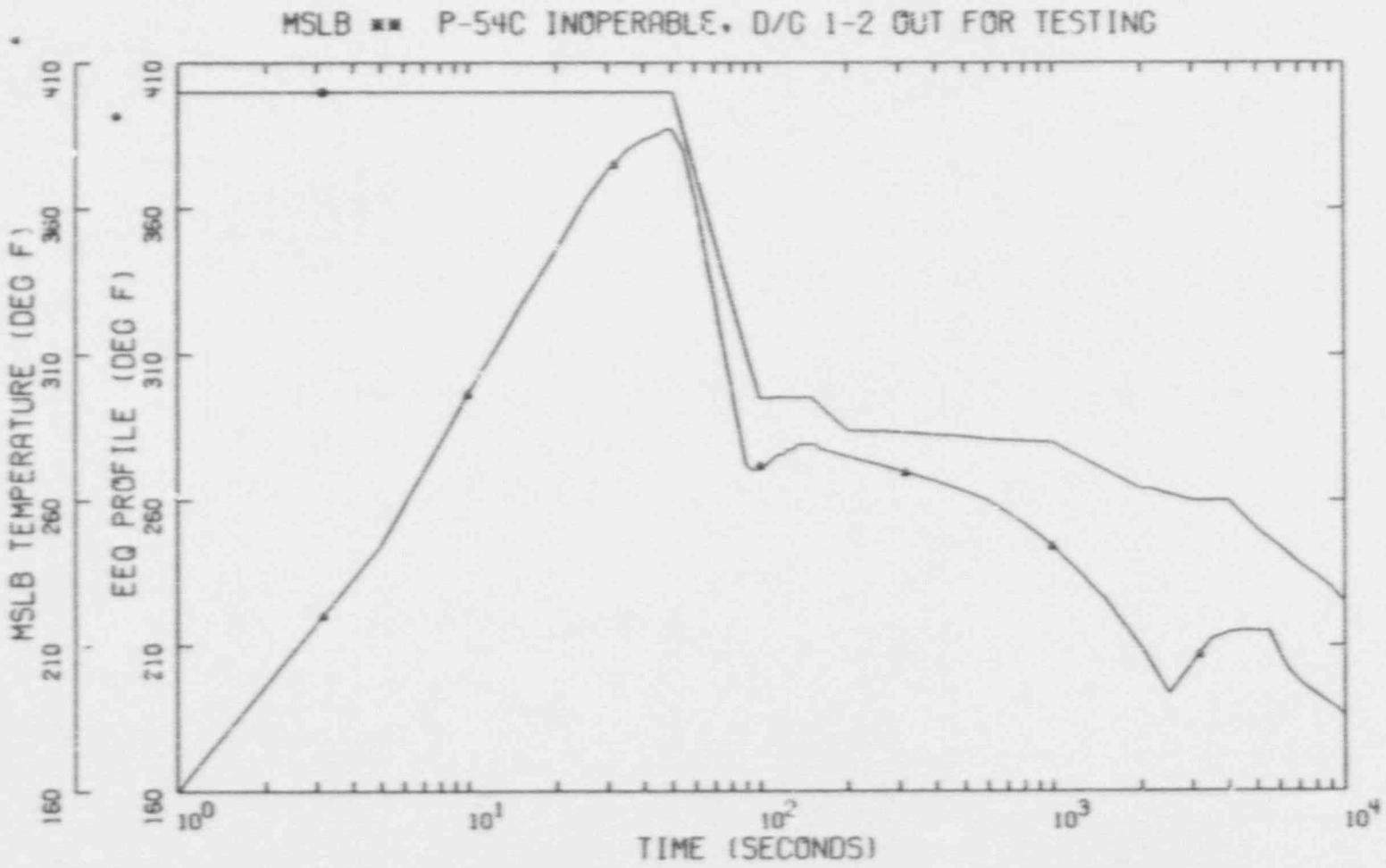
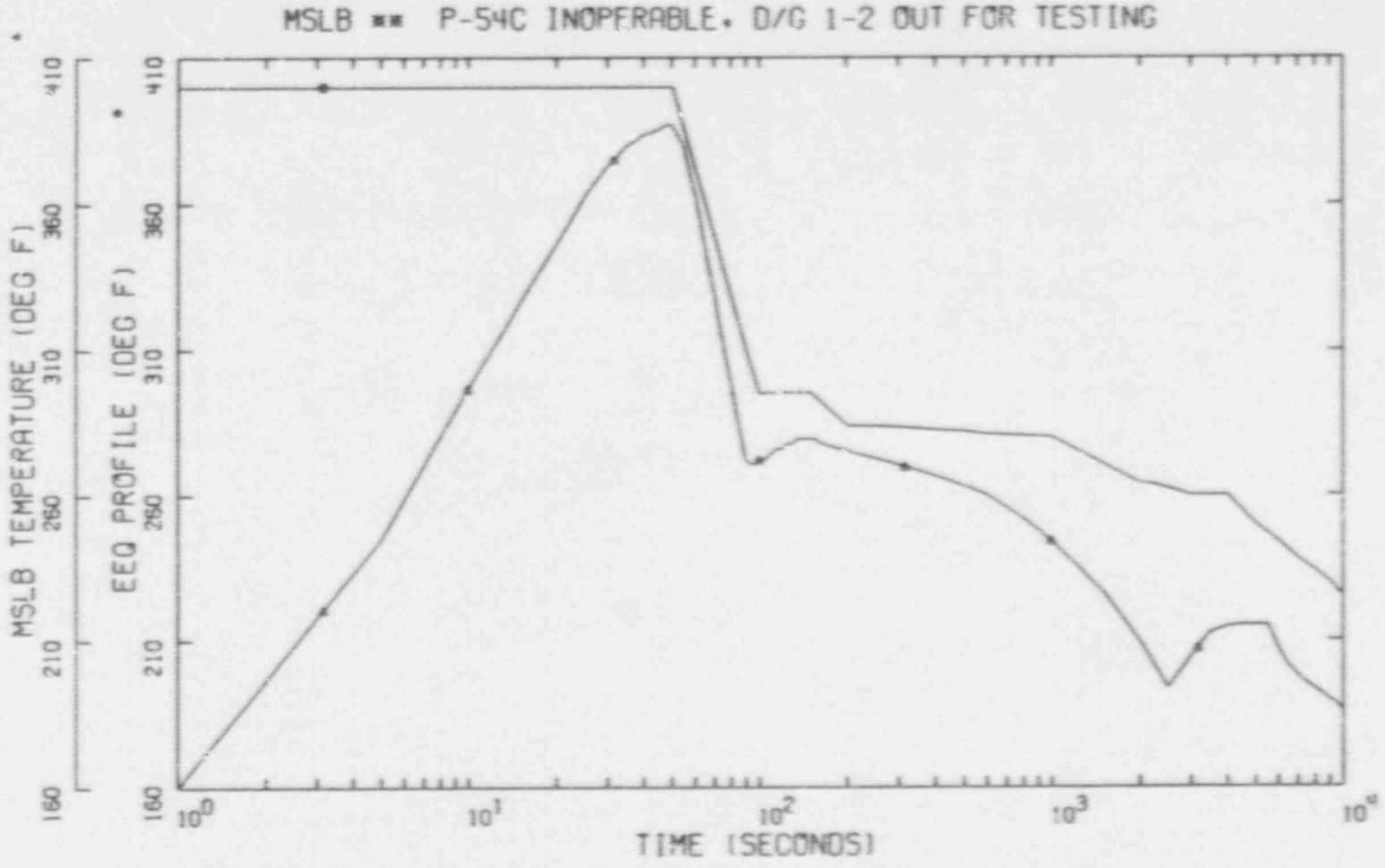

MSLB ** P-54C INOPERABLE, D/G 1-2 OUT FOR TESTING
MSLB TEMPERATURE (DEG F)
EEQ PROFILE (DEG F)
160
210
260
310
360
410
10^0
10^1
10^2
10^3
10^4
TIME (SECONDS)

FIGURE 4


MSLB ** P-54C INOPERABLE. D/G 1-2 OUT FOR TESTING
MSLB TEMPERATURE (DEG F)
EEQ PROFILE (DEG F)
160
210
260
310
360
410
10^0
10^1
10^2
10^3
10^4
TIME (SECONDS)

CONCLUSION:

LOCA

- MAXIMUM TEMPERATURE AND PRESSURE REMAIN BELOW DESIGN VALUES
- PRESSURE AFTER 24 HOURS IS BELOW HALF THE DESIGN PRESSURE
- TEMPERATURE PROFILE IS BELOW THE EEQ ENVELOPE

MSLB

- MAXIMUM PRESSURE REMAINS BELOW THE DESIGN VALUE OF 69.7 PSIA
- MAXIMUM TEMPERATURE REMAINS BELOW EQUIPMENT QUALIFICATION VALUE OF 400°F

CONTAINMENT HEAT REMOVAL
EQUIPMENT INOPERABILITY

DATE	LEFT	RIGHT
MARCH 17	EDG 1-1 (1 HR 3 MIN)*	
MARCH 19	P-52A (1 HR 8 MIN)*	EDG 1-2 (1 HR 30 MIN) (1 HR 30 MIN)*
MARCH 21		P-7C (54 MIN)
APRIL 2	EDG 1-1 (28 MIN)	
APRIL 3	P-52A (18 HRS 43 MIN)	
APRIL 15		EDG 1-2 (1 HR 50 MIN)*
APRIL 17	EDG 1-1 (1 HR)*	
APRIL 24	P-7B (15 HRS)	P-7C (19 HRS 12 MIN)
MAY 13	EDG 1-1 (62 HRS 55 MIN)	EDG 1-2 (10 MIN)
MAY 20		EDG 1-2 (57 HRS 30 MIN)
MAY 22		P-54A (2 HRS 57 MIN)*
MAY 23	P-54B (~2 HRS)*	
TOTALS	~102 HRS	~86 HRS

* Technical Specification Surveillance Testing

INSPECTION REPORT COMMENTS

APPARENT VIOLATION

1. LICENSEE FAILED TO HAVE APPROPRIATE PROCEDURES FOR THE RETURN OF CONTAINMENT SPRAY PUMPS TO SERVICE PRIOR TO CRITICALITY

2. PUMP P-54C WAS NOT OPERABLE PRIOR TO REACTOR CRITICALITY

3. LICENSEE FAILED TO HAVE CONTAINMENT SPRAY PUMP P-54C OPERABLE. REDUNDANT COMPONENTS WERE NOT TESTED AND THE DURATION EXCEEDED SEVEN DAYS

OTHER ISSUES

- P-54B
- HPSI PUMPS